

Voice Impact of a Prolonged Reading Task at two Intensity Levels

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Questions

How does the voice vary with the duration of vocal load?

How does the voice vary with two different intensity levels of vocal load?

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Methods

Subjects: 50 normophonic ♀ (25.4 years)
VLS examination excluding pathologies

Loading task: 2-hour reading task

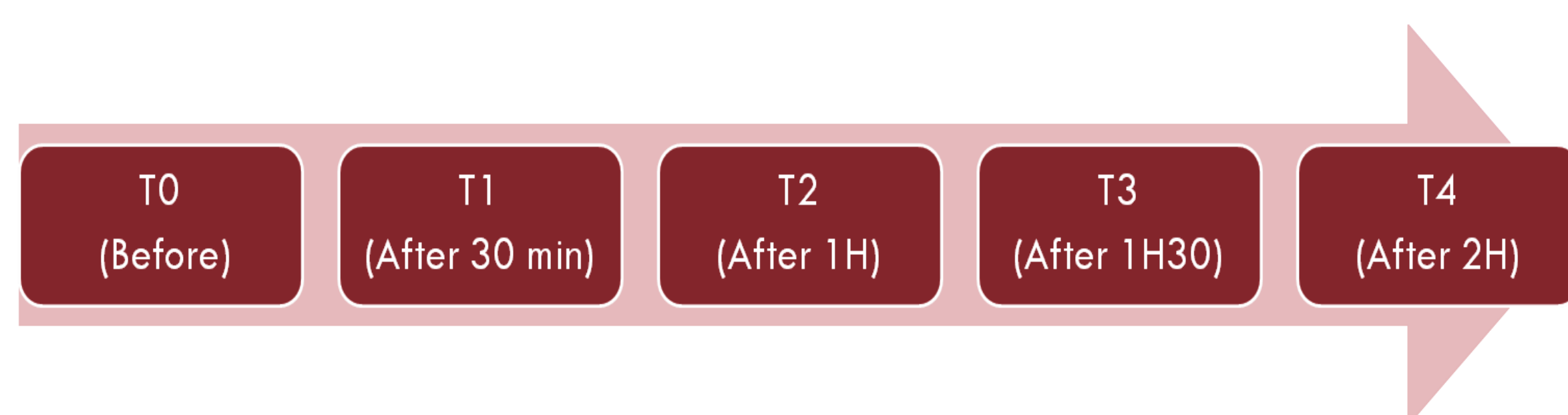
Test: reading at low intensity (LI) level,
between 60 and 65 dB(A)

Retest: reading at high intensity level (HI),
between 70 and 75 dB(A)

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Protocol

For each reading session,
serial sets of measurements are carried out :



Data analyzed on sustained /a/:

F0

Jitt%

Shim%

NHR

**Data obtained by use of
the Voice Range Profile program:**

The lowest frequency (F0-Low)

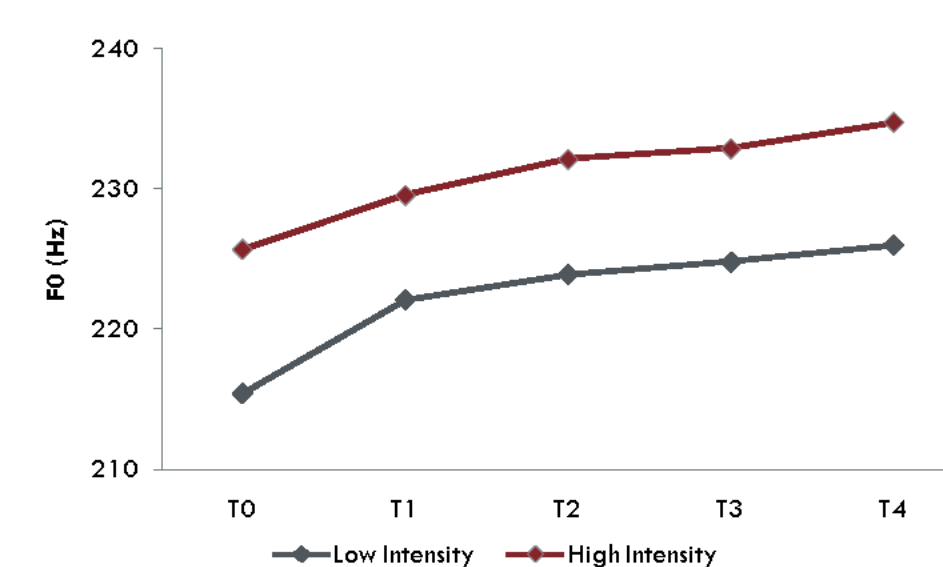
The highest frequency (F0-High)

The lowest intensity (I-Low)

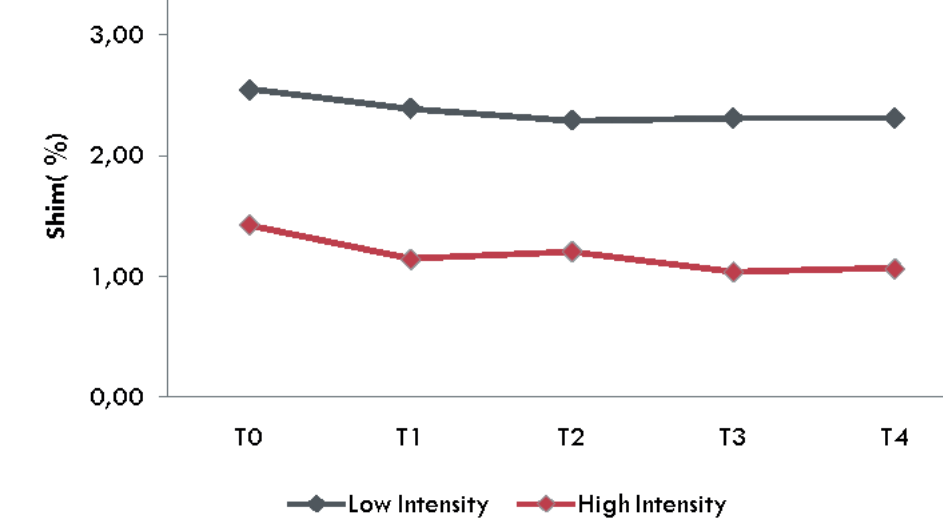
The highest intensity (I-High)

4

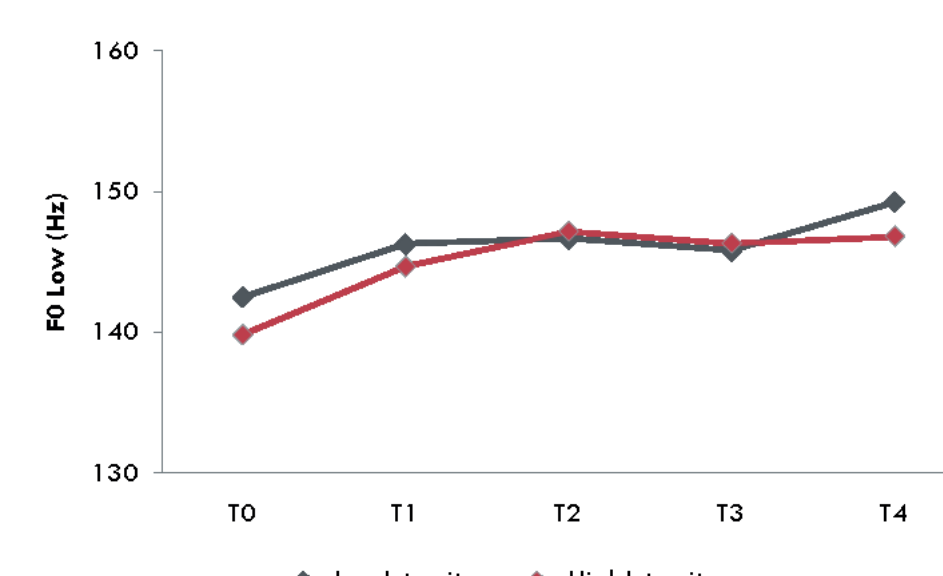
Results



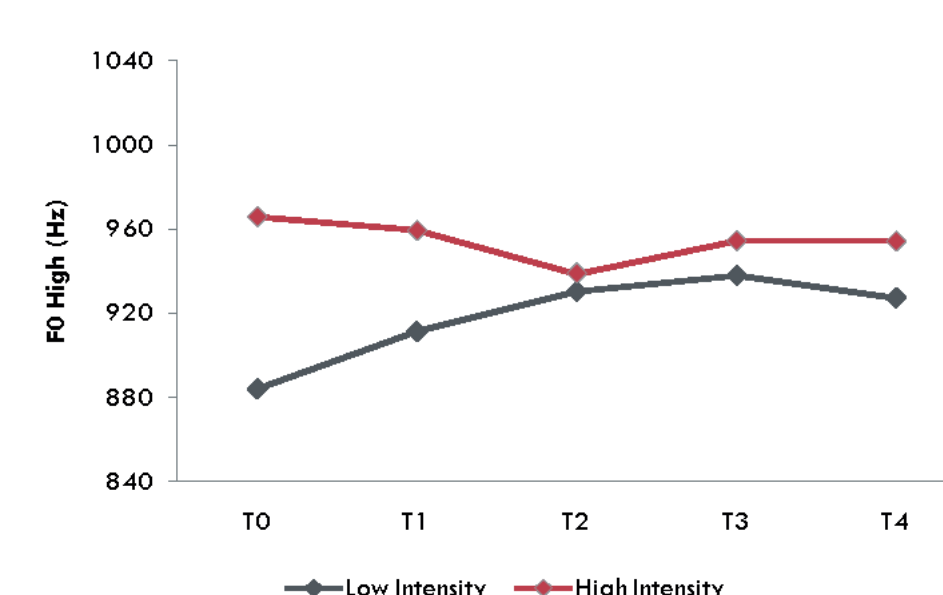
F0: Effect of the duration
 $F = 12.5, p < 0.0001$
Effect of the intensity level
 $F = 21.9, p < 0.0001$



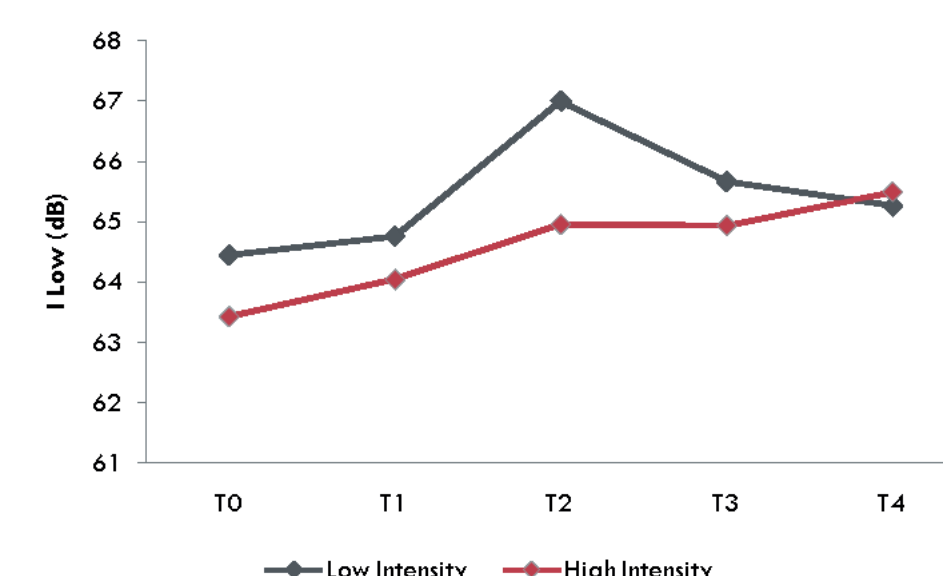
Shim: Effect of the duration
 $F = 6.62, p < 0.0001$
No effect of the intensity level



F0-Low:
Effect of the duration
 $F = 4.81, p = 0.001$
No effect of the intensity level



F0-High:
No effect of the duration
Effect of the intensity level:
 $F = 7.21, p = 0.009$



I-Low:
Effect of the duration
 $F = 5.00, p = 0.007$
No effect of the intensity level

Jitt, NHR, I-High:

No effect of the duration
No effect of the intensity level

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Conclusions

Effects of the duration:

↑ F0 and F0-Low

↑ laryngeal tension

↑ activity in the respiratory muscles

↓ Shim%

↓ instability after vocal load in link
with a greater laryngeal activity.

**These results reflect an adequate
adaptation to loading.**

Effects of the intensity level:

↑ F0 and F0-High in the HI task